Amended Claims

[received by International Office on April 3, 1992; original claims 1, 7 and 8 superseded by amended claim 1; claims 7 and 10 superseded by new claims 7 and 8; all further claims unchanged (2 pages)]

1. A process for producing aluminium oxide beads, in which an acid aluminium oxide sol or an acid aluminium oxide suspension is produced and converted into droplets, said droplets are coagulated in an aqueous ammonia solution, and the gel beads thereby formed are aged, washed, dried and calcined,
w h e r e i n
said aluminium oxide hydrosol droplets are generated by a vibrated nozzle plate having several nozzles, wherein said droplets are pre-solidified by separate lateral blowing with ammonia gas or by blowing with ammonia gas, in the case of droplets from the ring interior and from the ~~ring~~ exterior of a nozzle ring in order to pre-solidify such droplets, and wherein said pre-solidified droplets are then collected in an ammonia solution.

2. A process for producing aluminium oxide beads according to Claim 1,
w h e r e i n
said aluminium oxide sol or aluminium oxide suspension can have a viscosity in the range from 10 to 500 mPa·s at room temperature.

3. A process according to Claim 1,
w h e r e i n
said nozzle plate is vibrated at a vibration frequency of 10 Hz to 20000 Hz, preferably 50 Hz to 12000 Hz.

4. A process according to Claim 1 at least,
w h e r e i n
a tenside is added to said ammonia solution for formation of a foam layer, and a gas such as ammonia-containing air, nitrogen or argon is blown in and/or a separate tenside solution is used for foam generation.

5. A process according to Claim 4,
w h e r e i n
said foam layer has a depth in the range from 5 to 50 mm.

6. A process according to Claim 1,
w h e r e i n
said gel beads are dried at temperatures between 20°C and 300°C over a period of 1 to 24 hours.

7. A process according to Claim 1,
w h e r e i n
said droplets are blown from the ring interior with NH_3.

8. A process according to at least one of the preceding claims,
w h e r e i n
said dried beads are calcined or activated for 2 h to 12 h at temperatures from 500°C to 700°C.